

IN THE SPECIFICATION:

Please replace the paragraph beginning on page 17, line 1 with the following:

Once a service has received the appropriate activation commands, either directly from the provisioning system or via the ISC, it is initiated (400 and 401). The initiation process can be performed in multiple ways. One option is for the provisioning function to initiate the service on behalf of the service (402 and 403). In another configuration of the invention, the service initiates itself with the ISC directly.

The step of commencing service configuration is then performed 404. Then a determination whether the service has requested classification is made 405. Depending on the result, the process described in Figure 4b may be performed. Then a determination whether the service has requested message and event registration is made 406. Depending on the result, the process described in Figure 4c may be performed. Then a determination whether the service has requested profile configuration is made 407. Depending on the result, the process described in Figure 4d may be performed. Then service operations and configurations are monitored 408, and continue to be monitored until a classification, message registration, or profile change has occurred 409, at which point the process returns to commencing service configuration 404.

Please replace the paragraph beginning on page 17, line 17 with the following:

Automatic Service Classification, through a dynamic message exchange between the service and the ISC, may require more than one iteration to fully determine a service's capabilities and appropriate classification. While it begins with the service declaring its self-determined classification based on criteria categories like those listed below, it might also

involve subsequent inquiries from the ISC with responses from the service 410. This dynamic service classification and negotiation dialog is employable in enabling dynamic service registration and plug`n`play 411 and 412. After sufficient negotiations have been performed the ISC will determine a final ASC for the service 413. Service classification categories, and their possible parameters include, but are not limited to what is disclosed in the following table:

Service Classification

Service Classification Categories:	Parameter Values:	Examples–Description:
Service Identity	<ul style="list-style-type: none"> Names Aliases Globally Unique Digital Identifiers 	Means of uniquely and unambiguously identifying and referring to a particular service (implies a means to authenticate Identity also)
Emergency Priority	<ul style="list-style-type: none"> Government–Public Emergency Service Individual–Personal Emergency Service Government–Public Warning Service All Other Public–Private Services 	GETS 911 Emergency Preparedness...
Service Provider	<ul style="list-style-type: none"> Local Domain Provider (Home) Guest Provider in Local Domain Foreign Provider in Another Domain 	Who is providing the service and therefore how much should the service be trusted–secured
Dependency	<ul style="list-style-type: none"> Independent Service Service Modifies Behavior of another service Service Behavior is Modifiable by other objects Service Collaborates with another service 	Specifies dependency to another specific service

Connectivity (Mode)	<ul style="list-style-type: none"> • Connection-Oriented (CO) • Connectionless (CL) 	Whether a communication association requires specific: 1) establishment, 2) transmission, 3) disconnection stages (CO), or, is single message oriented (datagram transmission) without specific establishment and disconnection stages (CL).
Manipulates Transport Associations Bearer Content	<ul style="list-style-type: none"> • Yes • No (e.g. a Read-Only Monitor service) • Possible additional transport-specific parameters • 	Does the service directly manipulate transport bearer content (e.g. 2-way call, video streaming, Dynamic DSL, ...)
Augments Control of Transport Associations	<ul style="list-style-type: none"> • Yes • No 	Services that augment, or might change control behavior of, a "basic" association service. Call Waiting, Instant Message No Solicitation, and URL Screening are examples. Key notion is that they modify existing associations established by a service that "Manipulates Transport"
Type of Association Augmentation	<ul style="list-style-type: none"> • Screening Inbound Associations • Screening Outbound Associations • Routing • Bandwidth Control (Thruput Rates) • Latency/Delay/Priority • Other Performance/QOS modifications 	
Association Media Type	<ul style="list-style-type: none"> • Voice • Video • Information • Multi-Media 	

Association Flow	<ul style="list-style-type: none"> • One-Way (Stream) • Two-Way (Dialog) • Multi-Way (Conference) 	Drives basic Association Topological Configurations.
Message Source	<ul style="list-style-type: none"> • Only Msgs within the same domain • Messages from other domains 	Where is the message originating from?
Service Invoker	<ul style="list-style-type: none"> • Only Msgs within the same domain • Messages from other domains 	“Who” can start the service
Service Privacy	<ul style="list-style-type: none"> • Private • Restricted Visibility • Public 	To what degree can other services know about “me”
Remote Use	<ul style="list-style-type: none"> • Local/Home Only • Remote Only • All 	Can the Service be invoked by an event originating outside of the Local/Home Service Provider Domain?
Security and Trust	<ul style="list-style-type: none"> • Various security (or “trust”) “Levels” 	Functions of Authentication, Authorization, Access Control Allow or Limit various Service Capabilities and Access to Resources/Data
Shared Resource / Data	<ul style="list-style-type: none"> • Read Only (or Monitor) • Write Only (or Manipulate) • Read & Write 	The degree to which a service can share resources or requires dedication (or locking) of resources
Priority of Msg Delivery	<ul style="list-style-type: none"> • Message Communication Priority – tbd 	When congestion occurs in the signaling/control transport infrastructure, a prioritization scheme is required to ensure the Messages associated with critical time-bounded signaling functions are communicated as soon as possible.
Business SLA (Service Level Agreement) with Service Provider	<ul style="list-style-type: none"> • ? • ? 	Indicates whether special consideration should be given to specific services given an SLA.

Events Static Registry	<ul style="list-style-type: none"> • Event Static Info • Notification Interface Static Info 	Any specific event information that needs to be statically maintained. Information for use by Dynamic Event Notification Function.
------------------------	---	--

Please replace the paragraph beginning on page 20, line 1 with the following:

In addition to communicating a Message Registration List (MRL) to the ISC 414, each service may also communicate an Event Registration List (ERL) to the ISC 415. While messages and events are related, they do not necessarily comprise a one-to-one mapping, though the relationship between many events is a one-to-one mapping to a specific message for that event. Then the MRL-to-ERL mappings are computed and stored 416. The ERL from each service defines the specific events that the service needs the underlying transport resource (i.e. Transport Control and Transport layer functions) to monitor for and the MRL defines the specific messages that the service expects to receive. The ISC re-registers the ERL with the Transport Association Controller (TAC) 417. The ISC applies its internal processing intelligence to dynamically order each service for each message to determine their relative priority. Because the current state of services is constantly changing, so too the message distribution order may also change from moment-to-moment. The ISC stores the results of its intelligent processing in a Dynamic Message Distribution Prioritization (DMDP) for each message 418.

Please replace the paragraph beginning on page 20, line 23 with the following:

According to the invention described herein the dynamic multi-service user profile integration module 54 provides a means for generation of a Merged Multi-Service Profile (MMSP) like that illustrated in Fig. 5. Each communications service will manage 419 a Service

Profile (SP) that contains one or more of the Master Key Fields and may comprise one or more Service-Specific Fields which is dynamically merged 420 with the MMSP by the ISC. As a result, customers do not need to interact with each service individually to set their profile screening list and preferences which would require re-entering data for the Master Key Fields for each service. Instead, the ISC provides an integrated user interface (graphical, auditory, textual, touch-tone, etc.) to the MMSP where the customer can easily configure all services at once, having to edit the primary keys for each entry only once. Then a determination is made whether the SP is visible to other services or ISC processing modules 421. If so, the appropriate services or ISC processing modules are notified 422.

Please replace the paragraph beginning on page 21, line 10 with the following:

As can be seen in Fig. 5, the MMSP 200 illustrates an example of an MMSP with multiple columns of information set for multiple rows of both service and customer entries. The rows in the MMSP are divided into two sections (230 and 232) with the upper section representing service-settable parameters 230 and the lower section of rows representing customer-settable parameters 232. Alternately, the MMSP might be implemented as two or more separate tables supporting the same functional capabilities and integration.

Please replace the paragraph beginning on page 21, line 17 with the following:

The customer-settable rows, for example, might represent incoming callers the customer wants screened against criteria illustrated in the Service Specific Fields (214, 216, 218, 220, 222, 224 and 226).~~(columns 214-226).~~ Alternately, the rows could also contain entries with one or more Master Key Field identifies (e.g. phone numbers, IP addresses, e-mail addresses, etc.—204,

206, 208, 210, 212 ~~columns 204–212~~) that define possible communication entities (e.g. other people or web sites) for which a particular service should perform a specific set of actions. Regardless of what actions (screening, forwarding, etc.) that a service performs relatively to entries in its SP, the MMSP provides a merged information structure that allows the customer to enter individual entries, and their Master Key Fields, only once across all of that customer's services.

Please replace the paragraph beginning on page 29, line 21 with the following:

The processes performed by the ISC in responses to a detected event at an access portal are disclosed in the flowchart of Fig. 7. The ISC determines 700 whether a message has been received from a TAC, and continues monitoring 701 until such receipt. Upon receipt of a message from the TAC or other system entity, the ISC instantly updates the Dynamic Message Distribution Prioritization (DMDP) for that message[.]. 702. Memory for ASC, ISC Service Provider Policy (SPP), Customer Classification (CC), Customer's Preference Order (CPO), Current Services State (CSS), and ISC Service Provider Prioritization Rules (SPR) is then accessed 703. The instant update includes any possible recent changes to the customer's classification, the customer's service order preferences, the current state of all services, any other classification criteria, and is processed using the intelligent prioritization rules built within the ISC 704. The resulting DMDP—at that moment—is used by the ISC to dispatch the message 705 on to the appropriate service, and depending on the situation, to possibly wait 706 for a reply. When reply messages are received from a communication service they are processed accordingly. The ISC may be further configured to retransmit the message 707 to the communication service if a reply message is not received within a particular period of time. The

ISC is configured to receive multiple types of reply messages from a specific service. In addition to “service completed successfully,” or “service aborted with an error,” a service might also return a “pass” reply. This indicates to the ISC that the service did not perform any functions (e.g. it was “off” at the time) and the ISC should determine if the message should be distributed to the next service in the DMDP. Of course, many other types of reply messages are anticipated by the inventors. Fault and performance management messages may also be logged in this case.

Please replace the paragraph beginning on page 34, line 5 with the following:

Disclosed in Fig. 8 is a diagram that illustrates the message broker capability for the communications systems 10 described above in Fig.1. On a general level it is seen that each layer within a domain of the architecture includes at least one distributed message broker (DMB) e.g. 310, 312, and 314. ~~[[312-314.]]~~ In the configuration shown in Fig. 8, the primary purpose of the DMBs are to relay and screen messages based on prioritization schemes in support of message exchange between the different layers and domains. The relaying and screening of messages may be based on prioritization rules of a customer classification (relative ratings of customer attributes, e.g., Platinum, Gold, Silver, Bronze), associated service classification (relative ratings of service attributes), and system entity classification (relative ratings of system entity attributes) applied to a message classification of messages between system entities.

Please replace the paragraph on page 36, line 1 with the following:

Referring again to Fig. 8, DMB functionality exists at each layer (5-7) of the communications system 10. The system diagram shows the logical relationship between DMBs and the system entities they support. As shown, DMBs e.g. 310, 312, and 314 ~~[[310-314]]~~

generally provide message relay within a layer and across adjacent vertical layers to complementary DMBs. Message relay may further occur with Transport Association Controllers (TAC), Association State Managers (ASM), an Integrated Service Controller (ISC), a Service Director (logic) entity, and service management entities (fault, configuration, accounting, performance, and security systems). Message exchange across domain boundaries utilizes the Inter-Domain Message Interworking (IDMI) DMB 22 which includes additional security and inter provider scope functionality.